

Abstract

Crystal-growing furnace, in particular a vertical Bridgman crystal-growing furnace or a vertical gradient freeze crystal-growing furnace having a jacket heater and a method of regulating the heat output of the jacket heater

This invention is based on the problem of achieving the most planar possible phase boundary extending in the horizontal direction between the still molten material and the material that has already crystallized out in a vertical Bridgman crystal-growing furnace or vertical gradient freeze crystal-growing furnace for crystallizing out the semiconductor melt (4) and doing so at a low cost.

Therefore, jacket heaters (11, 12) are provided coaxially with the furnace core containing the crucible (6) and measurement devices for determining radial temperature differences in the space between the jacket heaters (11, 12) and the crucible (6), whereby the heat output of the jacket heaters (11, 12) is adjusted so that the measured temperature differences become zero. Thus, at least in the planes in which the measurement devices are located, radial heat transport is prevented and a phase boundary that is not curved is implemented.

(Figure 1)